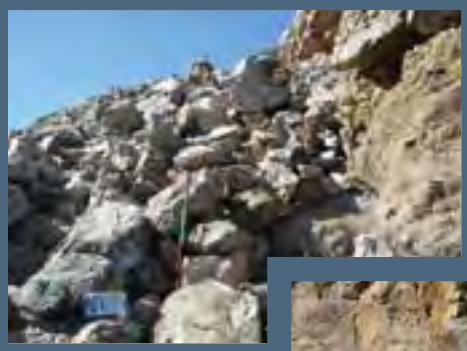
Abandoned Uranium Mine Site Assessment for the Section 21 Site (NM0135)



FINAL REPORT

Prepared For:

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April 14, 2010

NM0135

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1.0 INTRODUCTION

INTERA Incorporated (INTERA) has prepared this Abandoned Uranium Mine (AUM) Site Assessment Report for the Mining and Minerals Division (MMD) of the New Mexico Energy, Minerals and Natural Resources Department (EMNRD) in compliance with the Professional Service Agreement dated November 2, 2009. INTERA visited the Section 21 Mine Site (AUM Site), MMD ID: NM0135, on March 4, 2010.

1.1 PREVIOUSLY KNOWN INFORMATION ABOUT THE SITE

The AUM Site was registered as the Section 21 claim in 1955 and is located in the Little Burro Mountain District. Possible aliases for the AUM Site include Oil Center Tool Co., Redrock Canyon Claims, Anomaly #5, and Junoco Property (McLemore, 1983). The AUM Site produced a total of 30 pounds of U_3O_8 ore at an average production grade of 0.04 percent from a radioactive fault zone and unconformity according to McLemore (1983). The AUM Site is characterized as pre-Cambrian granite unconformably overlain by grey to black Cretaceous Beartooth quartzite, with no obvious uranium mineralization (McLemore, 1983, USAEC, 1970).

This AUM Site was included in the United States Atomic Energy Commission (USAEC) Preliminary Reconnaissance for Uranium in New Mexico, 1950 to 1958 report. The USAEC report states that small amounts of drilling and blasting has occurred at the AUM Site. The USAEC collected radiation readings using a La Roe Scintillator and reported a background reading of 0.009 MR/hr, an average reading of 0.03 MR/hr, and a maximum reading of 0.07 MR/hr. The USAEC report documents a production grade of 0.03 percent (USAEC, 1970).

This AUM Site was identified from three diamond drill holes on a United States Geological Survey (USGS) geologic map of the Wind Mountain quadrangle (Hedlund, 1978). No other information pertaining to these drill holes was provided on this map.

1.2 SITE LOCATION AND DIRECTIONS

The AUM Site is located on private land owned by the Pacific Western Land Company a subsidiary of Freeport-McMoRan in the NW 1/4 Section 21, Township 18 South, Range 15 West (Northern Area) and SE 1/4 Section 21, Township 18 South, Range 15 West (Southern Area). The two areas identified as this AUM Site can be seen on Figures 2 and 3, the Northern Area and the Southern Area. Freeport-McMorRan's Tyrone Mine former tailing ponds are located approximately ½ mile to 1 mile west and southwest of the AUM Site. This AUM Site is located in Grant County and is approximately 7 miles southwest of Silver City in the Little Burro Mountains (Figure 1).

To reach the Tyrone Mine General Office from Albuquerque, drive approximately 180 miles south on Interstate 25. Take Exit 41 towards Hatch and get on NM-26. Take NM-26 towards the town of Deming, approximately 45 miles. At Deming, take US-180 west for approximately 50 miles to Silver City. At Silver City turn onto NM-90 east towards Tyrone. Drive approximately 10 mile on NM-90. Turn right onto Mangas Valley Road and continue for approximately 1/2 mile. Mangas Valley Road turns into Tyrone Mine Road. Follow Tyrone Mine Road for

approximately 1/2 mile until you reach a fork in the road. Take the right fork and continue approximately 1/3 mile until you reach the Tyrone Mine General Office.

To reach the Northern AUM Site from the Tyrone Mine General Office, drive approximately 0.3 mile southwest on Tyrone Mine Road. From Tyrone Mine Road turn left (southeast) to continue on Tyrone Mine Road for approximately 0.5 mile. After 0.5 mile you will reach a fork in the road, take the left fork which will put you on Mangas Valley Road. Follow Mangas Valley Road for approximately 500 feet, then take a left (north) onto Mangas Valley Road. Follow Mangas Valley Road for approximately 8.3 miles. After 8.3 miles, turn right (northeast) off of Mangas Valley Road onto an unnamed well maintained dirt road. This unnamed dirt road will have a locked gate. Personnel from Tyrone Mine must provide access past this point. Continue on this dirt road for approximately 1.5 miles. After 1.5 miles the road will make a sharp right (south) and continue for approximately 1.3 miles. There will be a dirt area off the road to the left (northeast) to park. Continue on foot approximately 0.5 mile along the non-maintained dirt road (Access-4, Figure 2 and 3). The Northern AUM Site will be located across the river wash on the hill slope to the North.

To reach the Southern AUM Site from the Northern AUM Site continue along Access-4 (Figure 2 and 3) for approximately 1.4 miles to reach the first feature (DistPly-1) associated with the Southern AUM Site. To reach the second feature, CutLn-1, continue approximately 0.1 miles west along Access-2 (Figure 2 and 3). To reach the third feature, CutLn-2, retrace your steps along Access-2 and return to the first feature. From there continue on Access-3 approximately 0.2 miles; the third feature will up on hill slope to the northwest.

Please note: Tyrone Mine personnel must escort you to the AUM Site area.

1.3 SITE GEOLOGY

The AUM Site is located in the Little Burro Mountains in Grant County. The Burro Mountains are a tilted fault-block uplift of Precambrian granite and gneiss in the northwestern-trending transition zone between the Colorado Plateau Province and the Basin and Range Province (Trauger, 1965). The rocks of the Northern Area AUM Site are composed of Tertiary middle-ash flow tuff (Hedlund, 1978). The rocks of the Southern Area are composed of pre-Cambrian granite, air-fall tuff and tuffaceous sandstone, and pyroxene andesite porphyry (USAEC, 1970, Hedlund, 1978). Uranium mineralization is associated with faults in the pre-Cambrian granite and faults between the pre-Cambrian granite and the Cretaceous Beartooth quartzite (McLemore, 1983).

1.4 SITE HYDROGEOLOGY

The Northern Area AUM Site is located on the southern slope of Wind Mountain. An arroyo is located south of the Northern Area at the southern base of Wind Mountain. The Southern Area AUM Site is located on the slopes of an unnamed small mountain just east of Tyrone Mine with surface drainage flowing into surrounding arroyos. There arroyos drain towards the Tyrone Mine former tailings ponds.

The AUM Site is located in the Gila groundwater basin. Groundwater flow in the basin generally follows drainage patterns of the surface flow (DBSA, 2005). Groundwater in the vicinity of the AUM Site is largely confined to alluvial fill in the surface drainages. Very little development of

groundwater has occurred near the AUM Site. There are four monitoring wells associated with Tyrone Mine located within 1-mile of the AUM Site.

1.5 REGIONAL TOPOGRAPHY AND TERRAIN

The Northern and Southern Area AUM Sites can be found on the Wind Mountain Quadrangle 7.5 minute United States Geological Survey topographic map (Figure 2). The Northern Area and Southern Area are located at an elevation of approximately 5900 and 6000 feet above mean sea level, respectively (Figure 2). The Site is in the Little Burro Mountains which is the northern portion of the Burro Mountain Range. The Burro Mountain Range is transected by Mangas Valley with the southern portion being called the Big Burro Mountains (Julyan, 2006). In general the area is steep, rough, and carved by surface drainages. Figure 3 shows an aerial photograph of the terrain surrounding the AUM Site.

2.0 MINE FEATURES

The mine features described below are based on the features provided to INTERA by MMD in the GIS Data Dictionary (MMD, 2009). INTERA marked the locations of the AUM Site features using a Trimble Global Positioning System (GPS) and entered details about the features into the GPS using the MMD data dictionary. The Northern AUM Site consists of two open cut areas and two erosion features. The Southern AUM Site consists of two cut lines, three piles, four pile ridges, and one large disturbed area. A Photo Log is provided in Appendix A, Table 1 contains a list of all AUM Site features, and Figures 4 and 5 illustrates the locations of the AUM Site features.

2.1 MINE SHAFTS, ADITS, AND DECLINES

No shafts, adits, or declines were identified at the AUM Site.

2.2 MINING AND EXPLORATION PITS AND OPEN CUTS

Two open cuts (CutPly-1 and CutPly-2) were identified at the Northern Area of the AUM Site; these cuts appeared to be only exploration cuts since no material appeared to have been removed from the site. Two open cuts (CutLn-1 and CutLn-2) were identified at the Southern Area of the AUM Site. CutLn-1 was a cut into the northwest side of the hill approximately 60 feet in length and the exposed rock face was about 15 feet high. CutLn-2 was a cut into the southeast side of the hill approximately 40 feet in length and the exposed rock face was about 20 feet high.

2.3 WASTE AND ORE PILES AND DISTURBANCES

One disturbance (DistPly-1), three waste piles (PilePly-1, PilePly-2, and PilePly-3) and four pile ridges (pileridge-1, pileridge-2, pileridge-3, and pileridge-4) were found at the Southern Area of the AUM Site. The waste piles and pile ridges all consist of waste rock. PilePly-1, PilePly-2, PilePly-3, and pileridge-1 are associated with CutLn-1. Pileridge-1 spills down the west side of the ridge on which CutLn-1 is located.

Pileridge-2 is associated with DistPly-1 which was flattened and was unvegetated. Pileridge-2 material appears to have originated from CutLn-1 and CutLn-2.

Pileridge-3 and pileridge-4 are associated with CutLn-2. Pileridge-3 spills down the south side of the ridge on which CutLn-2 is located. Pileridge-4 is the southern down slope boundary of pileridge-3.

2.4 MINING RELATED BUILDINGS AND FOUNDATIONS

No mining related buildings and foundations were evident at the AUM Site.

2.5 OTHER MINE FEATURES

An access road which has been washed out runs adjacent to the arroyo which leads to the Northern Area AUM Site (Access-4).

Multiple access roads were observed at the Southern Area AUM Site (Access-2 and Access-3). It is unknown how to access these roads by car.

2.6 BOREHOLES

A metal pipe (Photo-7), potentially a drill rod, was observed at the northern end of CutLn-2. It was reported that the Southern Area AUM Site contained three diamond drill holes (Hedlund, 1978). No other evidence indicating boreholes was observed at the Southern Area AUM Site.

2.7 RECLAMATION ACTIVITIES

No evidence related to reclamation activities was evident at the AUM Sites.

3.0 ARCHEOLOGICAL SITES

No apparent archeological sites were identified at or near the AUM Site.

4.0 SITE GAMMA RADIATION READINGS

The background gamma radiation readings at the AUM Site were measured approximately 0.5 miles and 1.2 miles from the Northern Area and Southern Area, respectively. The background gamma readings were measured at 14 microroentgens per hour (µR/hr) at the ground surface and 14 µR/hr at 4 feet above the ground surface. The gamma radiation readings taken at the AUM Site are provided in Table 2.

The gamma radiation readings at the Northern Area AUM Site did not vary significantly above background levels (Table 2). The gamma radiation readings at the Southern Area AUM Site were greater than background readings. The maximum gamma radiation reading was taken at CutLn-2 and was measured at 260 µR/hr at the ground surface and 90 µR/hr at 4 feet above the ground surface. The average gamma radiation readings taken at the Southern Area was 116 µR/hr at the ground surface and 44 µR/hr at 4 feet above the ground surface.

5.0 CURRENT LAND USES

5.1 HUMAN ACTIVITY AND RECREATIONAL SITE USE

No evidence of recent human activity was found on the AUM Site, but abundant past and present evidence of ranching exists in the surrounding area. This evidence includes cow tracks, water tanks, and corrals. Heavy equipment was noted approximately a mile from the AUM Site which was being used for the reclamation of the former Tyrone Mine tailings ponds.

5.2 NEARBY RESIDENTIAL, COMMERCIAL AND INDUSTRIAL STRUCTURES

There are no residential or commercial structures within a 1-mile radius of the AUM Site. Former tailing ponds associated with Tyrone Mine which are currently under reclamation are located west and southwest of the AUM Site.

5.3 NEARBY DOMESTIC WELLS

There are no domestic wells within a 1-mile radius of the AUM Site.

5.4 EVIDENCE OF GRAZING OR AGRICULTURE

Fences, corrals, and cattle trails in the area attest to active and past ranching activity.

5.5 EVIDENCE OF WILDLIFE

Crows, jackrabbits, deer tracks and coyote scat were observed in the area of the AUM Site.

6.0 VEGETATION

The Section 21 site is located in the Coniferous and Mixed Woodland vegetation type. The woodland site has a diverse variety of woody species including pine, Scrub oak, juniper, chamise, Common sotol, cholla, and Prickly Pear cactus. Grass species collected at the AUM Site included Little Bluestem and Dropseed. There was no evidence of noxious weeds at the AUM site.

7.0 POTENTIAL OFFSITE IMPACTS

7.1 EROSION

Some gullying and downward movement of waste rock was observed at the Southern Area of the AUM Site.

7.2 ENVIRONMENTAL IMPACTS

There is no evidence of soil staining from chemicals potentially brought to the AUM Site, or from constituents present in the ore or waste rock. Gamma radiation levels at the AUM Site were detected above background level (Table 2).

8.0 REFERENCES

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Julyan, Robert, 2006. The Mountains of New Mexico. University of New Mexico Press.

McLemore, Virginia T., 1983. Uranium and Thorium Occurrences in New Mexico: Distribution, Geology, Production, and Resources with Selected Bibliography, New Mexico Bureau of Mines & Mineral Resources, Open-file Report 183, pp. 1-125.

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New Mexico Office of the State Engineer (NMOSE), 2008. Wells and Surface Diversions in New Mexico. WATERS_PODS_may08.shapfile. OSE Waters Database.

Trauger, Frederick D., 1965. Geologic Structure Pattern of Grant County, New Mexico. New Mexico Geological Society Fall Field Conference Guidebook – 16 Southwestern New Mexico II, eds. J. Paul Fitzsimmons and Christina L. Balk, pp. 184-187.

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TABLES

Table 1
Site Features

Section 21-NM0135
Abandoned Uranium Mine Assessments

Feature Name	On Site?	Feature Type	Associated Feature	Material	Height or Depth (ft)	Width or Diameter (ft)	Length (ft)	Open	Collapsed	Closure Type	Associated Photo	Notes
Access-1	No	Dirt Nonmaintained	--	--	--	--	--	--	--	--	--	Hike into the Northern Area associated with the AUM Site
Access-2	No	--	--	--	--	--	--	--	--	--	--	Hike from CutLn-1 to DistPly-1 within the Southern Area of the AUM Site
Access-3	Yes	--	--	--	--	--	--	--	--	--	--	Hike from DistPly-1 to CutLn-2 within the Southern Area of the AUM Site
Access-4	No	--	--	--	--	--	--	--	--	--	--	Hike from CutLn-2 to truck
DistPly-1	Yes	Site Extent	--	--	--			--	--	--	NM0135_031 NM0135_033	Extent of disturbed area associated with a feature in the Southern Area of the AUM Site
ErosPt-1	Yes	Water Eroded	--	--	--	60.00	100.00	--	--	--	NM0135_001	Erosion feature within the Northern Area of the AUM Site
ErosPt-2	Yes	Water Eroded	--	--	--	10.00	70.00	--	--	--	NM0135_003	Erosional feature located downslope from cutply-1 withn the Northern Area of the AUM Site
CutLn-1	Yes	--	--	--	15.00	18.00	60.00	--	--	--	NM0135_007 NM0135_008 NM0135_009 NM0135_025	Located in the Southern Area of the AUM Site
CutLn-2	Yes	--	--	--	20.00	15.00	40.00	--	--	--	NM0135_034 NM0135_035 NM0135_037 NM0135_038 NM0135_039 NM0135_040	Located in the Southern Area of the AUM Site
CutPly-1	Yes	--	--	--	50.00	75.00	50.00	--	--	--	NM0135_002	Exposed bedrock within the Northern Area of the AUM Site
CutPly-2	Yes	--	--	--	50.00	50.00	50.00	--	--	--	NM0135_004 NM0135_005	Exposed bedrock within the Northern Area of the AUM Site
PilePly-1	Yes	Waste	--	Rock	3.00	5.00	5.00	--	--	--	NM0135_010 NM0135_011	Waste rock pile associated with CutLn-1 wihtin the Southern Area of the AUM Site
PilePly-2	Yes	Waste	--	Rock	2.00	5.00	8.00	--	--	--	NM0135_012	Waste rock pile associated with CutLn-1 wihtin the Southern Area of the AUM Site
PilePly-3	Yes	Waste	--	Rock	2.00	5.00	20.00	--	--	--	NM0135_013 NM0135_014	Waste rock pile associated with CutLn-1 wihtin the Southern Area of the AUM Site
Pileridge-1	Yes	--	--	--	1.00	60.00	25.00	--	--	--	NM0135_015 NM0135_016	Waste rock pileridge assoicated with CutLn-1 within the Southern Area of the AUM Site
Pileridge-2	Yes	--	--	--	2.00	5.00	15.00	--	--	--	NM0135_030	Waste rock piileridge assoicated withDistPly-1 within the Soutnern Area of the AUM Site
Pileridge-3	Yes	--	--	--	5.00	50.00	40.00	--	--	--	NM0135_036	Waste rock pileridge assoicated with CutLn-2 within the Southern Area of the AUM Site
Pileridge-4	Yes	--	--	--	--	--	--	--	--	--	NM0135_041 NM0135_042	Downslope boundry of pileridge-3

Notes:
-- designates no information

Table 2
Gamma Radiation Survey Results

Section 21-NM0135
Abandoned Uranium Mine Assessments

Reading ID	Contact (µR/hr)	4 ft (µR/hr)	Associated Photo	Asssociated Feature
Rad-1	20	20	NM0135_001	Erosion-1
Rad-2	15	14	NM0135_002	CutPly-1
Rad-3	17	17	NM0135_003	Erosion-2
Rad-4	26	22	NM0135_002	CutPly-1
Rad-5	13	13	NM0135_002	CutPly-1
Rad-6	14	14	NM0135_002	CutPly-1
Rad-7	15	13	NM0135_004	CutPly-2
Rad-8	14	14	NM0135_004	CutPly-2
Rad-9	15	15	NM0135_004	CutPly-2
Rad-10	12	12	NM0135_004	CutPly-2
Rad-11	18	18	NM0135_005	Erosion-1
Rad-12	210	38	NM0135_010-011	PilePly-1
Rad-13	100	14	NM0135_012	PilePly-2
Rad-14	70	34	NM0135_013-014	PilePly-3
Rad-15	80	35	NM0135_013-014	PilePly-3
Rad-16	110	45	NM0135_007-009	CutLn-1
Rad-17	160	32	NM0135_007-009	CutLn-1
Rad-18	25	25	NM0135_007-009	CutLn-1
Rad-19	90	38	NM0135_015-016	pileridge-1
Rad-20	140	70	NM0135_030	pileridge-2
Rad-21	170	90	NM0135_030	pileridge-2
Rad-22	190	80	NM0135_030	pileridge-2
Rad-23	20	16	NM0135_033	DistPly-1
Rad-24	20	15	NM0135_033	DistPly-1
Rad-25	36	32	NM0135_035,37-39	CutLn-2
Rad-26	40	35	NM0135_035,37-39	CutLn-2
Rad-27	150	48	NM0135_035,37-39	CutLn-2
Rad-28	260	90	NM0135_035,37-39	CutLn-2
Rad-29	100	36	NM0135_035,37-39	CutLn-2
Rad-30	90	44	NM0135_036	pileridge-3
Rad-31	180	60	NM0135_036	pileridge-3
Rad-32	180	60	NM0135_036,41	pileridge-3,4
Rad-33	120	35	NM0135_036,41	pileridge-3,4
RadBack-1	14	14	--	--

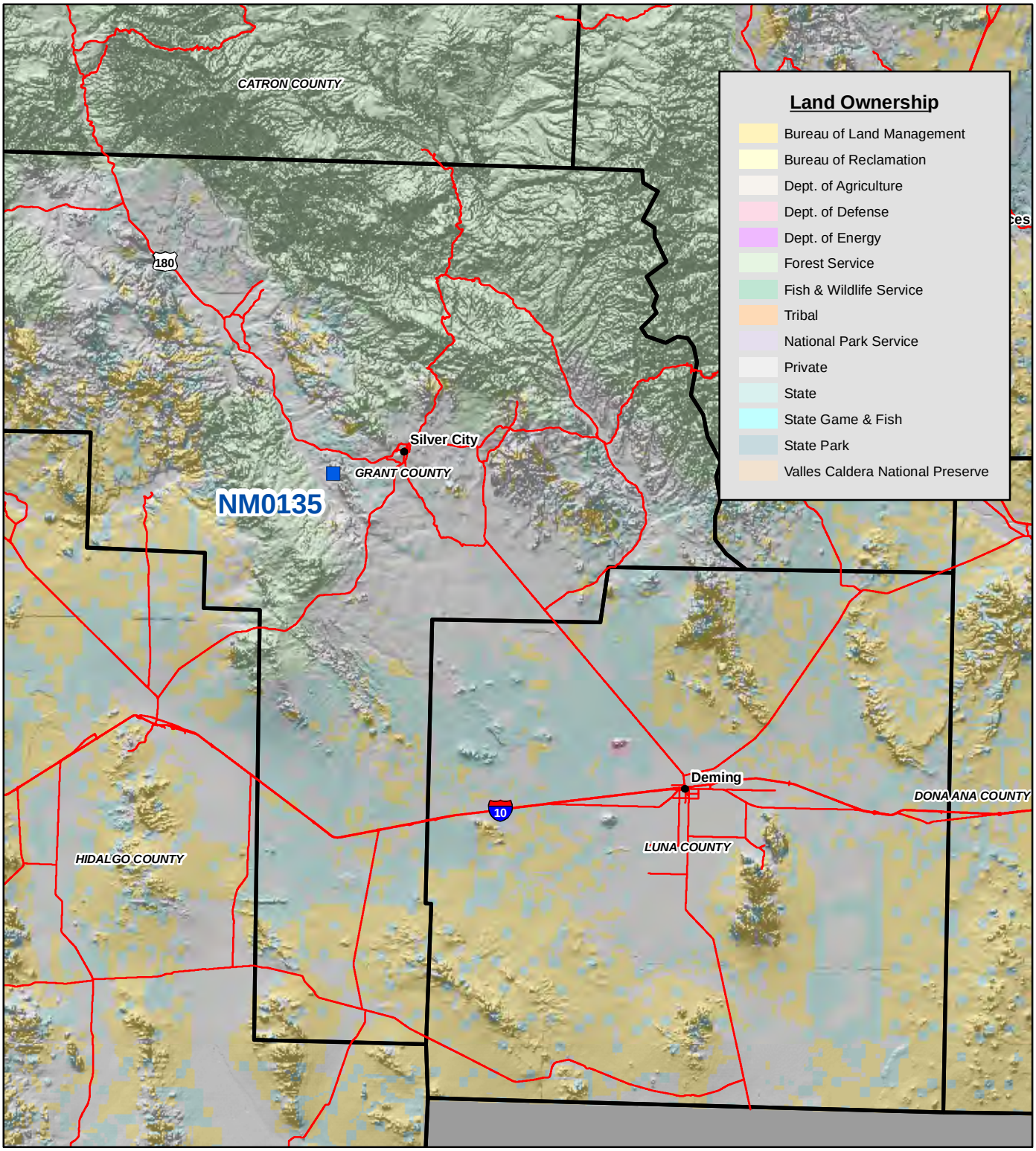
Notes:

All gamma readings at this site taken by Ludlum 192 µR/Ratemeter

µR/hr=microroetgens per hour

-- designates no information

FIGURES



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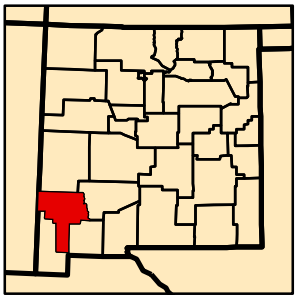
Miles

NORTH



Legend

- AUM Location
- Road
- County Boundary

Figure 1
Site Location Map
NM0135-Section 21
Abandoned Uranium Mine Assessment

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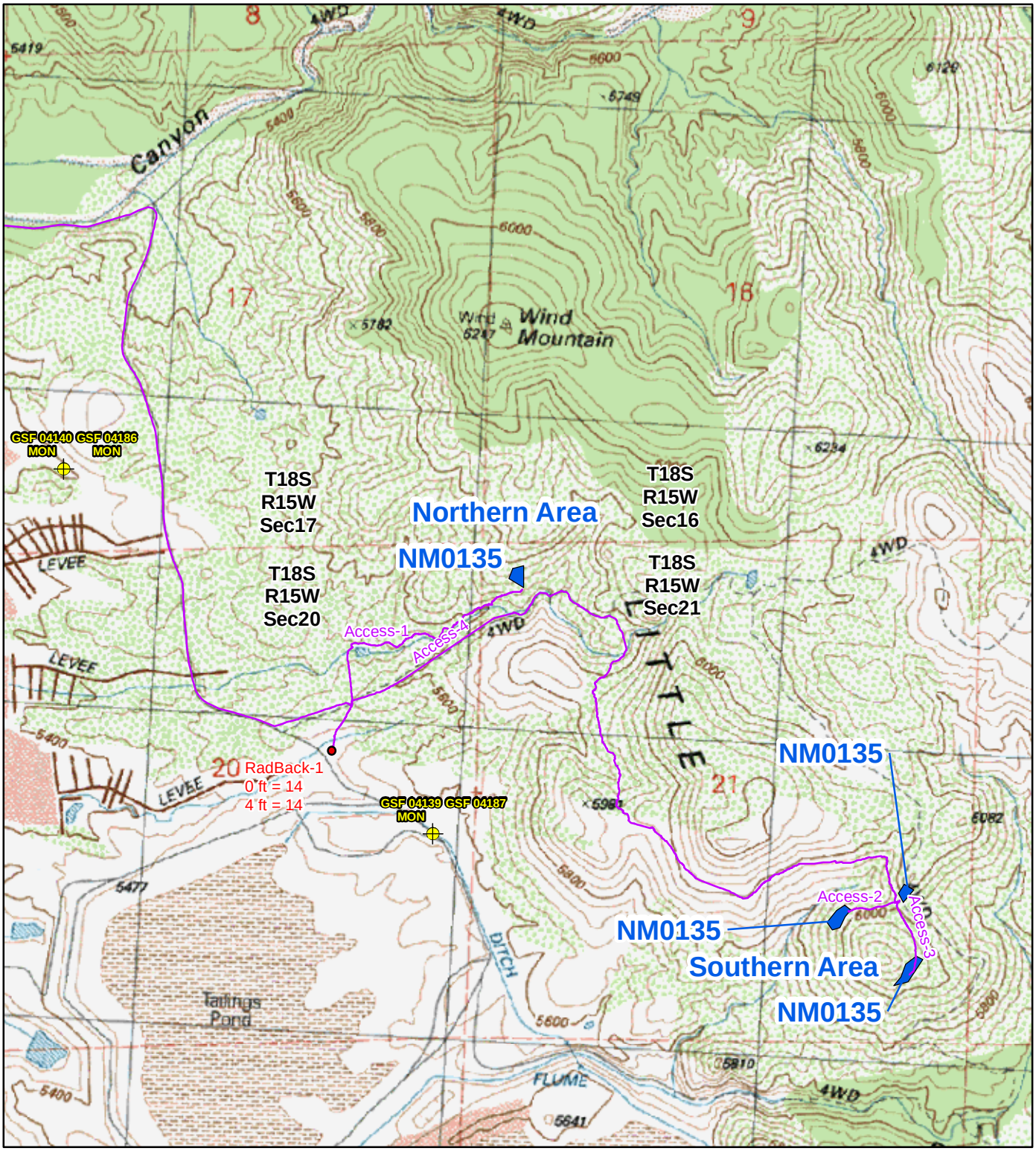

Map Source(s):
U.S. Geological Survey 7.5-Minute
Topographic Map
-Wind Mountain, 1992

0 750 1,500 3,000
Feet

NORTH

Legend

- Radiation Readings (µR/hr)
- Well Within 1 Mile of Site
- Access Route
- AUM Location Boundary (MMD Provided)

Figure 2
Topographic Map
NM0135-Section 21
Abandoned Uranium
Mine Assessment

File: S:\Projects\EMMD-001_Abandoned Uranium Mine Assessment\Sites\NM0135-Section21\GIS\Maps\Topo_Map_Section21_CP.mxd 03/24/2010

Map Source(s):
U.S. Geological Survey 7.5-Minute
DOQQ County Mosaic
-Grant County, 2009

0 750 1,500 3,000
Feet

NORTH

Legend

- Radiation Readings (µR/hr)
- Well Within 1 Mile of Site
- Access Route
- AUM Location Boundary (MMD Provided)
- Section Boundary

Figure 3
Aerial Photo
NM0135-Section 21
Abandoned Uranium Mine Assessment

INTERA

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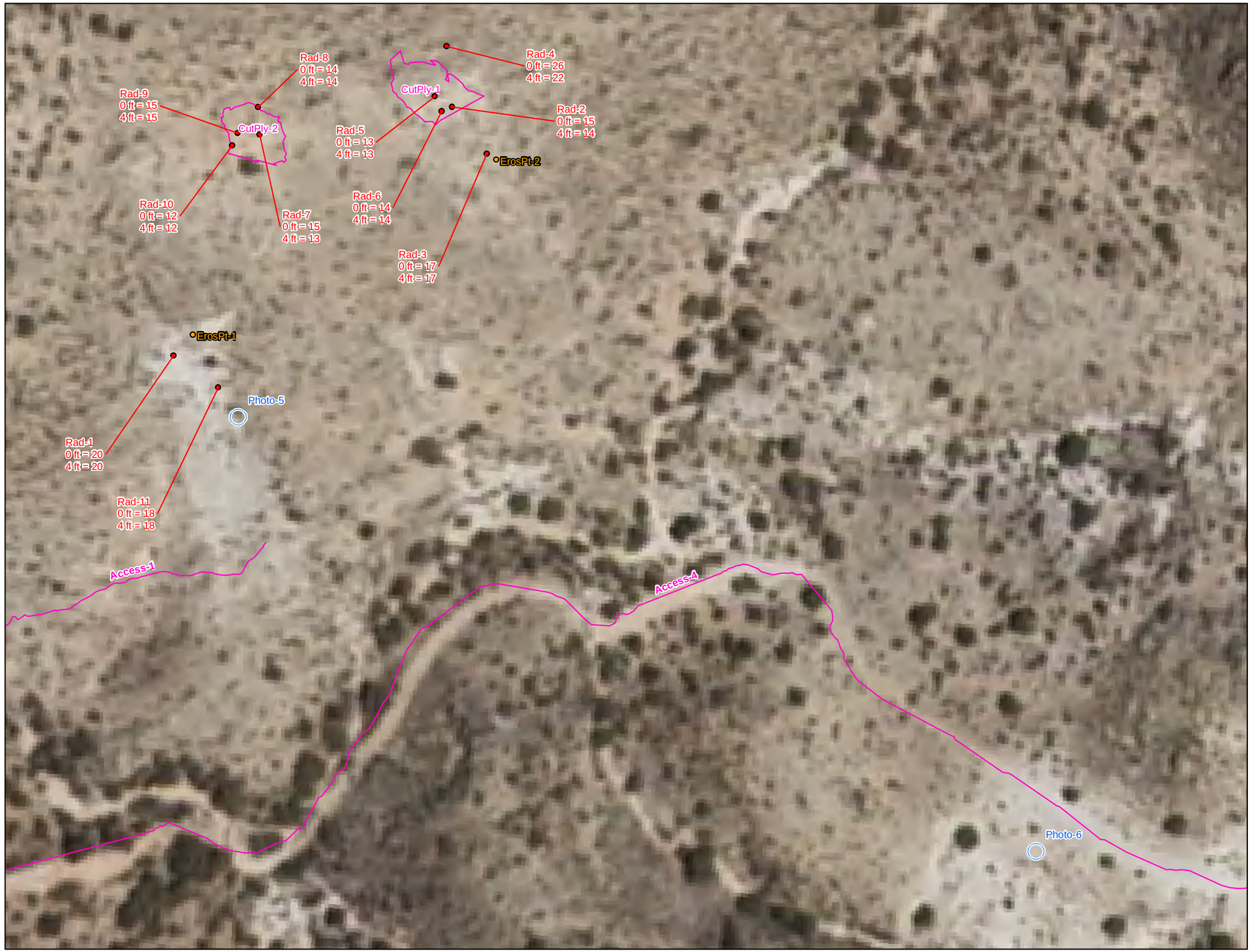

Legend

- Radiation Readings (µR/hr)
- Erosion Location
- Photo Location
- Access Route
- Open Cut Boundary

0 40 80 160
Feet

NORTH

Map Source(s):
U.S. Geological Survey 7.5-Minute
DOQQ County Mosaic
-Grant County, 2009

Figure 4a
Site Map on
Aerial Photo
Northern Area
NM0135-Section 21
Abandoned Uranium
Mine Assessment

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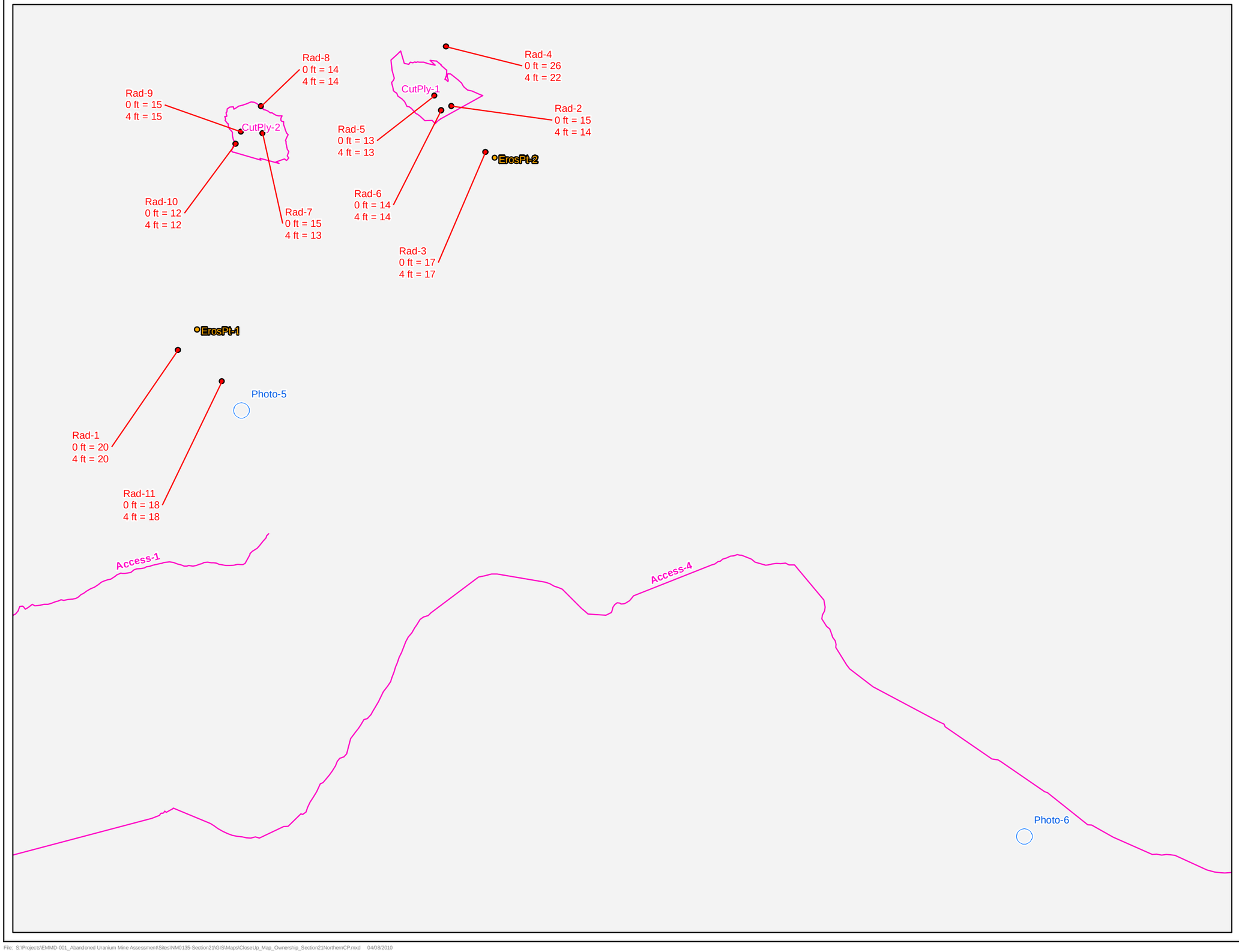

Legend

- Radiation Readings (µR/hr)
- Erosion Location
- Photo Location
- Access Route
- Open Cut Boundary

Surface Ownership

- Private

0 40 80 160

Feet

NORTH

Map Source(s):
Ownership - BLM, 2008

Figure 4b
Site Map with Surface Ownership
Northern Area
NM0135-Section 21
Abandoned Uranium Mine Assessment

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Legend

- Radiation Readings (µR/hr)
- Photo Location
- Access Route
- Open Cut
- Pile Ridge
- Pile Boundary
- Site Extent Disturbance Area

0 45 90 180
Feet

NORTH

Map Source(s):
U.S. Geological Survey 7.5-Minute
DOQQ County Mosaic
-Grant County, 2009

Figure 5a
Site Map on Aerial Photo
Southern Area
NM0135-Section 21
Abandoned Uranium Mine Assessment

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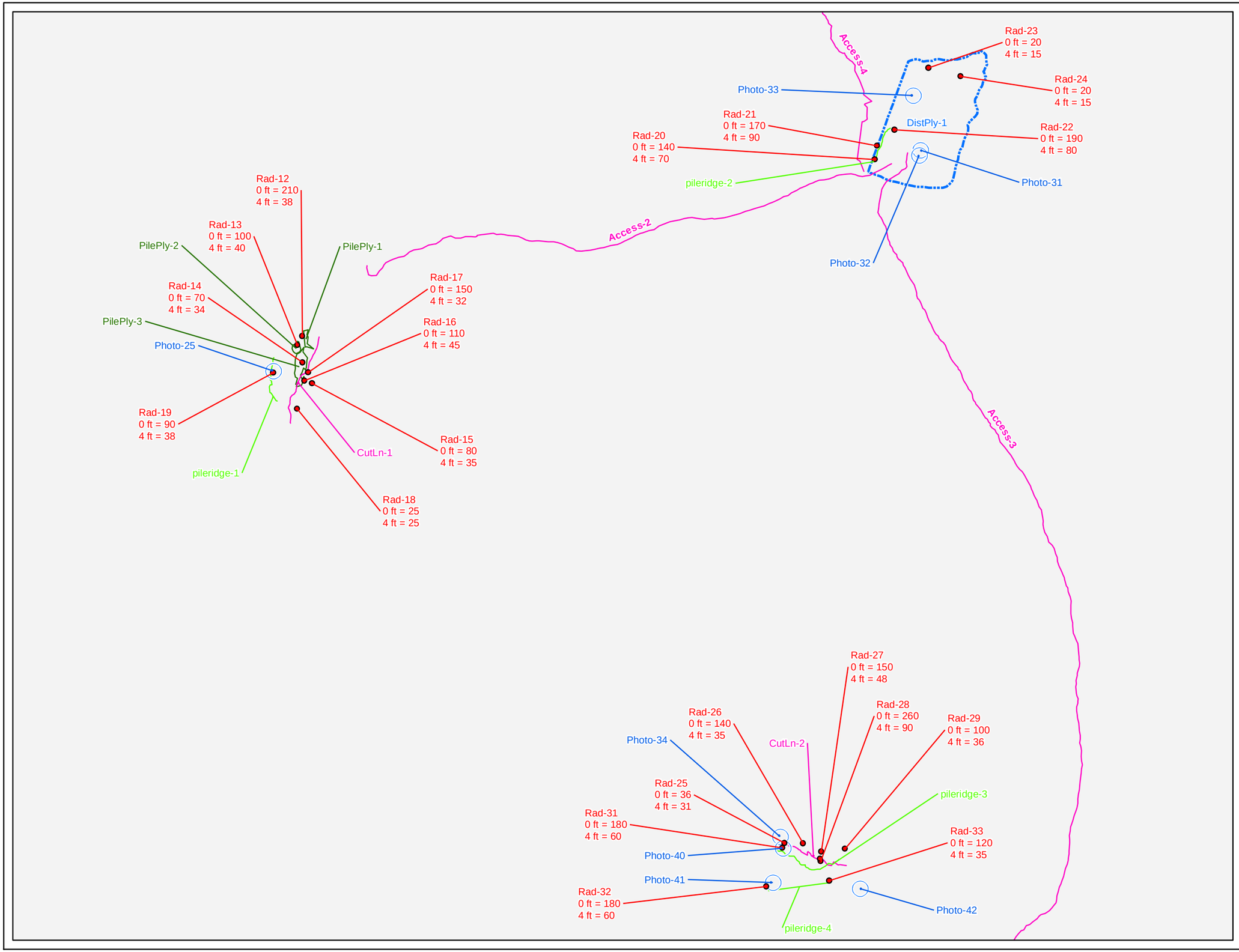

Legend

- Radiation Readings (µR/hr)
- Photo Location
- Access Route
- Open Cut
- Pile Ridge
- Pile Boundary
- Site Extent Disturbance Area

Surface Ownership

- Private

0 45 90 180
Feet

NORTH

Map Source(s):
Ownership - BLM, 2008

Figure 5b
Site Map with Surface Ownership Southern Area NM0135-Section 21

Abandoned Uranium Mine Assessment

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APPENDIX A

PHOTO LOG

Note: Gaps in the numbering sequence of the photos is the result of removing photos not suitable for the report. A full set of photos is provided in the electronic deliverable.

Photo 1-Looking southwest at the large erosion feature (ErosPt-1) located in the Northern Area.

Photo 2-Looking north at the open cut (CutPly-1) located in the Northern Area.

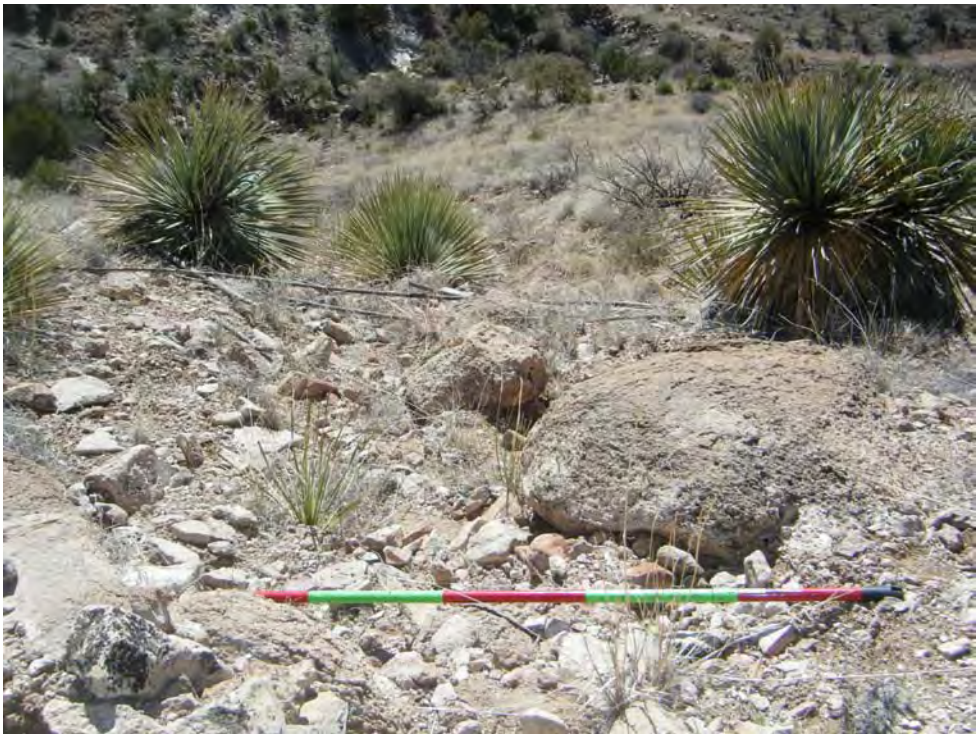


Photo 3-Looking south at the erosion feature (ErosPt-2) located down slope of CutPly-1 in the Northern Area.

Photo 4-Looking north at the open cut (CutPly-2) located in the Northern Area.

Photo 5-Looking northwest at the base of erosion feature (ErosPt-1), site name location in the Northern Area.

Photo 6-Looking north at the Northern Area AUM Site from across the arroyo.

Photo 7- Looking south at an Open Cut (CutLn-1) located in the Southern Area.

Photo 8- Looking east at an Open Cut (CutLn-1) located in the Southern Area.

Photo 9- Looking north at an Open Cut (CutLn-1) located in the Southern Area.

Photo 10-Looking east at a waste pile (PilePly-1) located in the Southern Area.

Photo 11-Looking down at PilePly-1 located in the Southern Area.

Photo 12-Looking southeast at a waste pile (PilePly-2) located in the Southern Area.

Photo 13-Looking southeast at a waste pile (PilePly-3) located in the Southern Area.

Photo 14-Looking at the rocks contained in a PilePly-3 located in the Southern Area.

Photo 15-Looking east at pileridge-1 located in the Southern Area.

Photo 16-Looking north at the down slope of pileridge-1 located in the Southern Area.

Photo 18-Vegetation at the AUM Site.

Photo 19-Vegetation at the AUM Site.

Photo 21- Vegetation at the AUM Site.

Photo 24- Vegetation at the AUM Site.

Photo 25-Looking southeast at cutLn-1 with the Site name in the Southern Area of the AUM Site.

Photo 27-Vegetation at the AUM Site.

Photo 28- Vegetation at the AUM Site.

Photo30- Looking north at pileridge-2 located in the Southern Area.

Photo 31-Looking north at DistPly-2 with the Site name located in the Southern Area.

Photo 33-Looking northeast at DistPly-1 located in the Southern Area.

Photo 34-Looking at metal pipe (drill rod) located at the north end of CutLn-2 in the Southern Area.

Photo 35-Looking east at CutLn-2 located in the Southern Area.

Photo 36-Looking north at pileridge-3 located in the Southern Area.

Photo 37-Looking north at the rock face of CutLn-2 located in the Southern Area.

Photo 38-Looking southeast at the rock face of CutLn-2 located in the Southern Area.

Photo 39-Taking a reading on the rock face of CutLn-2 in the Southern Area.

Photo 40- Looking southeast at CutLn-2 with the Site name in the Southern Area.

Photo 41-Looking northeast at the pileridge-4 which is the base of spill over from pileridge-3 located in Southern Area.

Photo 42-Looking northwest at pileride-4 with the Site name in the Southern Area.

Photo 43-Looking at the type of rock found in the waste piles in the Southern Area AUM Site.

APPENDIX B

FIELD NOTES

1820 Back at truck to head out
Background Rad - 0m - 20uR/h; 1m - 20uR/h

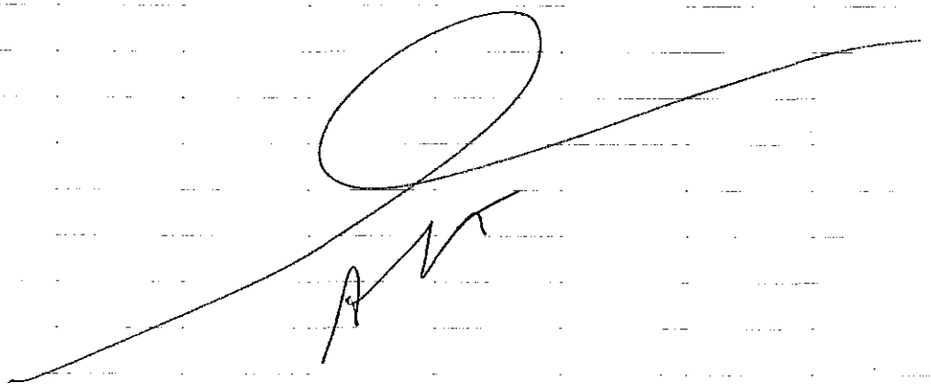
Access Rd 3 - from Adits 7 and 8 to paved road, Hwy 18 ALT 90

Soils: thin, rocky, tan-red sandy soils.

Rock: Limestone with pyrite-quartz veins and secondary mineralization. Copper, malachite, pyrite, and black minerals.

Human Activities: Extensive grazing was evident. Cow prints and pies. Fences, cattle guards, corrals. Four-wheel drive roads, tracks.

Wildlife: Owl, bats in shafts and adits. Cotton tail rabbits. Deer tracks.
Type of oak (?) tree/bush. Alligator juniper, grasses, cholla, yucca, century plant, sotol.



Site Name: NM0135, section 21

Objective: Site Assessment

Personnel: Annelia Tinkkenberg
Eileen Romesser

Equipment: Rental truck, Trimbel GeoXM (SN:4948447271, 2008 series); Ludlum 192 (SN:23449); Fuji film digital camera (No. 80839493); backup Garmin GPS; cell phone amplifier; field laptop.

800 At Tyrone Mine General Office to meet with Jerry Donaldson (575-313-0913).

830 Driving to site, following Jerry.

900 At parking location

1030 Found location, AUM. Disturbed polygon. Looks like an erosional feature in soft ash, tuff-looking material.

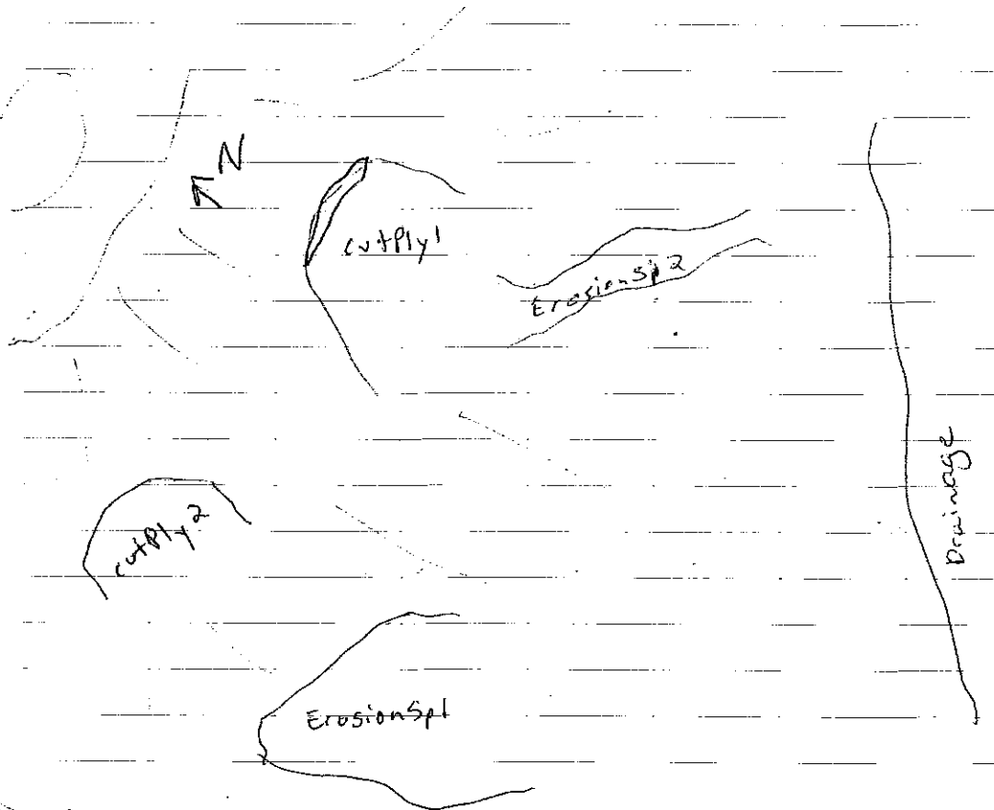
Erosion pt-1 - water erosion, 60' wide, 100' long
Photo 1 - looking south ~~east~~ west at erosion pt-1

Rad 1 - Erosion pt-1; 0m - 20uR/h; 1m - 20uR/h

Cut Ply 1 - Disturbed area, not radioactive
Rad 2 - Cut Ply 1 - 0m - 15 uR/h; 1m - 14 uR/h
Photo 2 - looking north at cut ply 1
- water drainage to erosion sp 2
Erosion Sp 2 - below, south of cut ply 1; 70' long 10' wide
Rad 3 - Erosion Sp 2 - 0m - 17 uR/h; 1m - 17 uR/h
Photo 3 - looking ~~north~~ SOUTH, ALT at Erosion sp 2

Rad 4 - top of cut Ply 1 - 0m - 26 uR/h; 1m - 22 uR/h
- bedrock exposure
Rad 5 - cut Ply 1 - 0m - 13 uR/h; 1m - 13 uR/h

Rad 6 - cut Ply 1 - 0m - 14 uR/h; 1m - 14 uR/h



Cut Ply 2 - Disturbed area, not radioactive
Photo 4 - looking north at cut ply 2
Rad 7 - east side of cut ply 2 - 0m - 15 uR/h; 1m - 13 uR/h

Rad 8 - north end of cut ply 2; 0m - 14 uR/h; 1m - 14 uR/h

Rad 9 - west end of cut ply 2; 0m - 15 uR/h; 1m - 15 uR/h

Rad 10 - south end of cut ply 2; 0m - 12 uR/h; 1m - 12 uR/h

Rad 11 - base of erosion sp 1; 0m - 18 uR/h; 1m - 18 uR/h

Photo 5 - base of erosion sp 1, looking ~~southwest~~ NORTH, ALT with site name

Photo 6 - looking at Disturbed ply 1+2 and erosion sp 1+2 from across the valley, looking ~~south~~ NORTH, ALT

1115 - on the way to the bore holes

1230 - Found location of Borehole Polygon 2, features include cut line, waste piles, and road. No visible bore hole

Cut In 1 - ~60' long, 10-25' wide, rock face 15' high
Photo 7 - cut In 1, looking ~~west~~ SOUTH, ALT
Photo 8 - cut In 1, looking ~~south~~ EAST, ALT
Photo 9 - cut In 1, looking ~~east~~ NORTH, ALT

PilePly 1 - 3' high, 5'x5'; large gray rock
Rad 12 - PilePly1 - 0m - 210 μR/h; 1m - 38 μR/h
Photo 10 - looking east at PilePly 1
Photo 11 - looking down at scintlemeter

PilePly 2 - 2' high; 5' wide, 8' long; large gray rock
Rad 13 - PilePly 2 - 0m - 100 μR/h; 1m - 40 μR/h
Photo 12 - looking southeast at PilePly 2

PilePly 3 - 2' high; 5' wide; 20' ~~long~~ ALT long;
mixed size, large and small grey rock with brown rock
Photo 13 - looking southeast at pileply 3
Rad 14 - PilePly 3 - 0m - 70 μR/h; ~~3~~ ALT 1m - 34 μR/h

Rad 15 - PilePly 3, west end; 0m - 80 μR/h; 1m - 35 μR/h

Photo 14 - looking at gray and brown rock on PilePly 3

Rad 16 - cutln1, center of rock face
0m - 110 μR/h; 1m - 45 μR/h

Rad 17 - cutln1, center of rock face
0m - 160 μR/h; 1m - 32 μR/h

Rad 18 - cutline1, west end of rock face
0m - 25 μR/h; 1m - 25 μR/h

PileRidge1 - 1' high; 25' long; spreads down hill about 60'.
Photo 15 - PileRidge1 looking east
Photo 16 - PileRidge1, downslope, looking north
Rad 19 - PileRidge1; 0m - 90 μR/h; 1m - 38 μR/h

Photos ~~#~~ ALT 17 - 24 - Vegetation

Photo 25 - site name, looking southeast

Photo 26 & 27 - Vegetation
Photo 28 & 29 - Vegetation
1300 - leaving for borehole 3 ALT

1315 - At location for borehole 3 ALT, features include: pile ridge with the large gray rock and a disturbed area, looks like it was bulldozed. Pile ridge contains rocks from another location
Photo 30 - PileRidge2 ALT, looking ~~east~~ north ALT
PileRidge2 ALT - 2' high, 5' wide, 15' long; large gray rocks
Rad 20 - west end PileRidge2 ALT; 0m - 140 μR/h; ~~70~~ ALT 1m - 70 μR/h

Rad 21 - center PileRidge2 ALT; 0m - 170 μR/h; 1m - 90 μR/h

Rad 22 - east PileRidge2 ALT; 0m - 190 μR/h; 1m - 80 μR/h

Photo 31 - site name at location, looking ~~southeast~~ ALT north
Photo 32 - site name at location, looking ~~north~~ ALT west

Rad 23 - Disturbed Ply1; 0m - 20 μR/h; 1m - 16 μR/h

3/04/10 ALT Abandoned Uranium Mines

Rad 24 - Disturbed Ply 1 - 0m - 200 mR/h; 1m - 15 mR/h

Photo 33 - Disturbed Ply 1, looking ~~southeast~~ northALT

Disturbed Ply 1 - borehole 3ALT location, seems bulldozed

1330 - moving to Borehole 3ALT location

1350 - At Borehole 1 location, southwest face

Photo 34 - metal pipe in rock at north end of cut ln 2

Photo 35 - cut ln 2, looking ~~south~~ northALT east

Cut ln 2 - 20' high face; 10-20' wide; 40' long

Pile Ridge 3 - 5' high; 40' long; spreads 50' down the slope

Photo 36 - Pile Ridge 3, looking north

Rad 25 - north end of cut ln 2; 0m - 36 mR/h; 1m - 32 mR/h

Photo 37 - Cut ln 2 rock face, looking ~~east~~ northALT

Rad 26 - Cut ln 2, north end; 0m - 40 mR/h; 1m - 35 mR/h

Photo 38 - Cut ln 2 rock face, looking southeast

Rad 27 - cut ln 3 face, gray rock; 0m - 150 mR/h; 1m - 48 mR/h

Photo 39 - Cut ln 2, Rad 27 reading, 6' up the wall

Rad 28 - base of rock face on Cut ln 2, loose gray rock

0m - ~~220~~ 260 AUT mR/h; 1m - 90 mR/h

Rad 29 - south-southeast end of cut ln 2

0m - 100 mR/h; 1m - 36 mR/h

Rad 30 - Pile Ridge 3 center; 0m - 90 mR/h; 1m - 44 mR/h

Rad 31 - Pile Ridge 3, north-northwest end

0m - 180 mR/h; 1m - 60 mR/h

Photo 40 - site name, looking southeast

Pile Ridge 4 - Base of Pile ridge 3, too steep. ~3' high

Rad 32 - base of Pile Ridge 3, Pile Ridge 4, northwest end

0m - 180 mR/h; 1m - 60 mR/h

Photo 41 - Pile Ridge 4 - base, looking up at pile spreading downslope, looking ~~southeast~~ northALT east

Rad 33 - base of Pile Ridge 3, Pile Ridge 4, southeast end

0m - 120 mR/h; 1m - 35 mR/h

Photo 42 - site name, looking northwest up at pile below site

1430 Leaving site to hike back out

Photo 43 - close up of gray rock, uranium-bearing

1530 Back at 1st polygon site

3/04/10 ALT Abandoned Uranium Mines

Background Rad - at truck; 0m - 14uR/h; 1m - 14uR/h

Access Road 1 - trail in along drainage to western most AUM polygon

Access Road 2 - road from AUM polygon 2 to AUM Polygon 3.

Access Road 3 - road from AUM polygon 3 to AUM Polygon 1

Access Road 4 - trail from AUM Polygons 1-3 back to original AUM Polygon and then along road out of Tyrone mine land.

1600 - out of mine area.

Soils: thin, rocky, light gray to tan. Locally very fine gray ash-material

Rocks: Rhyolite, tuff, volcanic. Limestone, sandstone Tertiary rocks. Intrusive or hydrothermal veins. Gray rocks, ~~small~~ ALT large crystal structure with whitish-blue mineralization in pockets.

Human Activities: Grazing evidence - cow pies, cow prints, fences, corrals.

Wildlife: Crows, jackrabbit, deer tracks, coyote ~~tracks~~ ALT scat. Mesquite, juniper, pine, oak, cholla, prickley pear, yucca, ~~century~~ ALT century plant, apache plum(?), blue grama, other grasses.

3/04/10 ALT Abandoned Uranium Mines